



Volunteer Lake Assessment Program Individual Lake Reports

SUNAPEE LAKE, LITTLE, NEW LONDON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	3,968	Max. Depth (m):	13.1	Flushing Rate (yr ⁻¹)	1.1	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	472	Mean Depth (m):	4.4	P Retention Coef:	0.66	1994	MESOTROPHIC	
Shore Length (m):	9,500	Volume (m ³):	8,449,500	Elevation (ft):	1220	2008	OLIGOTROPHIC	

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

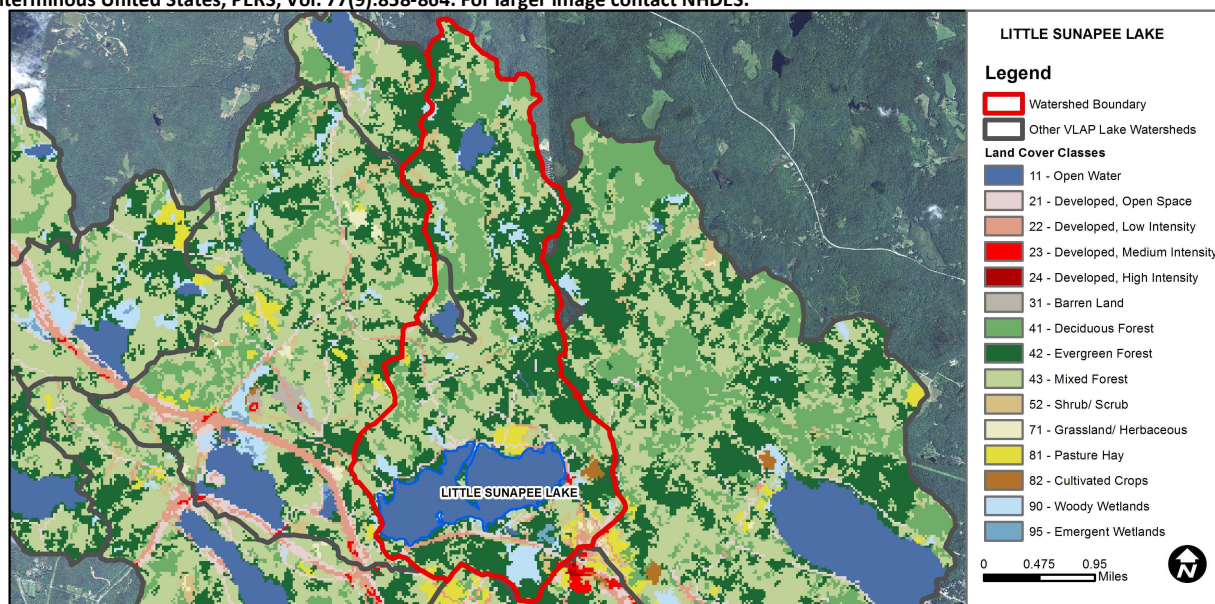
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

LITTLE LAKE SUNAPEE - COLBY LODGE BEACH	E. coli	No Data	No Data for this parameter.
LITTLE SUNAPEE LAKE - BUCKLIN TOWN BEACH	E. coli	Slightly Bad	Slightly exceeds criteria.
LITTLE SUNAPEE LAKE - BUCKLIN TOWN BEACH	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	14.6	Barren Land	0	Grassland/Herbaceous	0.15
Developed-Open Space	2.93	Deciduous Forest	12.95	Pasture Hay	1.4
Developed-Low Intensity	1.5	Evergreen Forest	32.03	Cultivated Crops	0.36
Developed-Medium Intensity	0.1	Mixed Forest	27.97	Woody Wetlands	3.86
Developed-High Intensity	0	Shrub-Scrub	1.83	Emergent Wetlands	0.22



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

LITTLE LAKE SUNAPEE, NEW LONDON, NH

2012 DATA SUMMARY

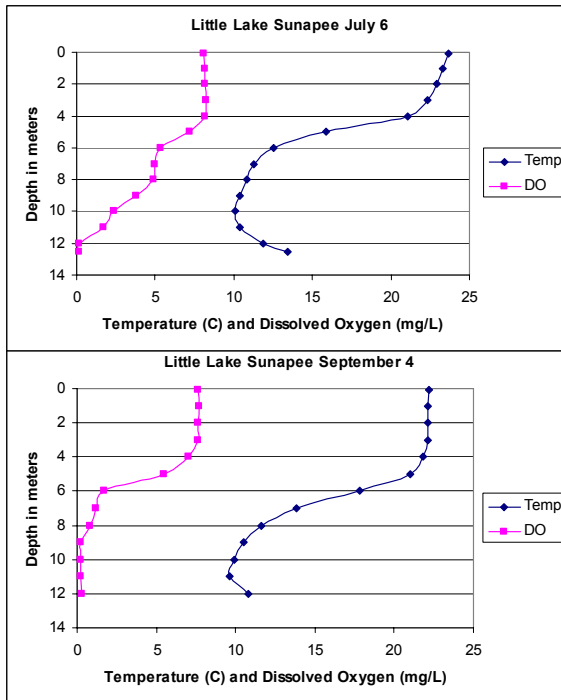
OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were low and less than the NH lake median. Historical trend analysis indicates a relatively stable chlorophyll level since monitoring began.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride levels slightly elevated above the NH lake medians.
- 🔥 **TOTAL PHOSPHORUS:** Deep spot phosphorus levels were low. Historical trend analysis indicates the epilimnetic (upper water layer) phosphorus levels tends to fluctuate from year to year.
- 🔥 **TRANSPARENCY:** Transparency improved as the summer progressed and was greater than the NH lake median. Historical trend analysis indicates the transparency tends to fluctuate from year to year.
- 🔥 **TURBIDITY:** Hypolimnetic (lower water layer) turbidity levels were elevated on the September sampling event likely due to low water levels and sediment contamination.
- 🔥 **pH:** pH levels decreased towards the lake bottom and were less than desirable.
- 🔥 **RECOMMENDED ACTIONS:** Maintain chloride monitoring in tributaries and the lake. Inspect hypolimnion sample for sediment contamination. Keep up the great work! Refer to the Little Lake Sunapee Sub-Watershed Report for tributary data interpretation.

Table 1. 2012 Average Water Quality Data for LITTLE SUNAPEE LAKE

Station Name	Alk.	Chlor-a	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	ug/l	NVS	VS	ntu	
Deep Epilimnion	4.9	2.73	13	76.6	6	4.65	4.85	0.55	6.83
Deep Metalimnion				75.0	7			0.92	6.20
Deep Hypolimnion				80.0	9			2.68	6.02

Dissolved Oxygen & Temperature Profile



NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Stable	Data not significantly increasing or decreasing.
Transparency	Variable	Data fluctuate annually but are not significantly increasing or decreasing.
Phosphorus (epilimnion)	Variable	Data fluctuate annually but are not significantly increasing or decreasing.

This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:

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Historical Deep Spot
Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data

